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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,055	03/08/2001	Masaru Ishikawa	11103-026001 / PU01-0104	4262

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EXAMINER

KOVALICK, VINCENT E

ART UNIT PAPER NUMBER

2673

DATE MAILED: 01/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,055

Applicant(s)

ISHIKAWA, MASARU

Examiner

Vincent E Kovalick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. This Office Action is in response to Applicant's Patent Application, Serial No. 09/801,055, with a File Date of March 8, 2001.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Method claims 12 and 13 are indicated as being dependent on apparatus claim 10, this is an obvious error, claims 12 and 13 should have been indicated as being dependent on method claim 11.

Appropriate correction is required.

Disclosure Objected to, Minor Informality

4. The disclosure is objected to because of the following informalities:

Page 8, lines 6 and 8 make reference to "stereoscopic frame 9" in Fig. 1. Fig. 1 does not show any element designated with the number "9".

Appropriate correction is required.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et al. (USP 5,764,280) taken with Battersby (USP 6,069,650) in view of Lippert (USP 4,754,327).

Relative to claims 1 and 11, Bloom et al. **teaches** a display device including a plurality of modulatable light sources providing an array of image elements, and a scanning device for viewing the array as a two-dimensional image (col. 2, lines 18-63). Bloom et al. further **teaches** an apparatus for displaying a stereoscopic two-dimensional picture (col. 9, lines 22-34 and Fig. 6).

Bloom et al. **does not teach** an apparatus and methodology for displaying a stereoscopic two-dimensional picture comprising: a display unit having a flat image display screen for displaying a two-dimensional picture containing a stereoscopic image; and an image transmitting panel placed parallel to and apart from said image display screen, the image transmitting panel having a microlens (lenticular elements) array of a plurality of lenses and an effective area larger than

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that of the stereoscopic image contained in said two-dimensional picture, and a lens frame area surrounding a perimeter of the effective area of said microlens array, so that said image transmitting panel generates an image-formation plane for displaying a real image of said two-dimensional picture in a space located on the opposite side to said display unit with respect to said microlens array; and a stereoscopic frame for defining a space for accommodating said image-formation plane.

Battersby **teaches** a stereoscopic display apparatus comprising an image display device so as to enable a stereoscopic image to be perceived (col. 1, lines 65; col. 2, lines 1-67; col. 3, lines 1-18 and Figs. 1 and 2). Battersby further **teaches** an apparatus and methodology for displaying a stereoscopic two-dimensional picture comprising: a display unit having a flat image display screen for displaying a two-dimensional picture containing a stereoscopic image (col. 3, lines 47-61); and an image transmitting panel placed parallel to and apart from said image display screen, the image transmitting panel having a microlens (lenticular elements) array of a plurality of lenses and an effective area larger than that of the stereoscopic image contained in said two-dimensional picture, and a lens frame area surrounding a perimeter of the effective area of said microlens array, so that said image transmitting panel generates an image-formation plane for displaying a real image of said two-dimensional picture in a space located on the opposite side to said display unit with respect to said microlens array (col. 3, lines 62-67 and lines 4, lines 1-8; and Figs. 1 and 2).

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It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate with the device as taught by Bloom et al. the features as taught by Battersby in order to put in place the means for a more sophisticated display/optical means arrangement in order to expand the capability of the system to be adapted to a larger number of applications

Bloom et al. taken with Battersby **does not teach** a stereoscopic frame for defining a space for accommodating said image-formation plane.

Lippert **teaches** a single sensor three dimensional imaging (col. 1, lines 57-68 and col. 2, lines 1-34). Lippert further **teaches** a stereoscopic frame for defining a space for accommodating said image-formation plane (col. 3, lines 55-62).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bloom et al. taken with Battersby the feature as taught by Lippert in order to establish the border which encompasses the subframe that make of the stereoscopic image.

Regarding claim 4, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the lens frame area color would have been one from a number of desired colors including a dark color area.

7. Claims 6 and 12 (*as best understood*) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et al. taken with Battersby in view of Lippert as applied to claims 1 and 11 respectively in item 6 hereinabove, and further in view of Matsumura et al. (USP) 6,246,451.

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Relative to claims 6 and 12(*as best understood*), Bloom taken with Battersby in view of Lippert **does not teach** said stereoscopic two dimensional picture comprising a picture signal supply circuit for generating a picture signal for exhibiting an image portion other than stereoscopic images which is filled with a dark color in the two-dimensional picture to be reproduced and supplying the picture signal to said display unit.

Matsumura et al. **teaches** a stereoscopic image displaying method and stereoscopic image apparatus (col. 3, lines 16-67; col. 4, lines 1-67 and col. 5, lines 1-27 and Fig. 1). Matsumura et al. further **teaches** said stereoscopic two dimensional picture comprising a picture signal supply circuit for generating a picture signal for exhibiting an image portion other than stereoscopic images which is filled with a dark color in the two-dimensional picture to be reproduced and supplying the picture signal to said display unit (col. 7, lines 24-49 and Fig. 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate with the device as taught by Bloom et al. taken with Battersby in view of Lippert the feature as taught by Matsumura et al. in that with the image processing and display control means as taught by Matsumura et al. the means would be in place to generate and supply the desired image format and color to the display unit.

8. Claims 7 and 13 (*as best understood*) are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et al. taken with Battersby in view of Lippert as applied to claims 1 and 11 respectively in item 6 hereinabove, and further in view of Kato et al. (USP 5,754,280).

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Regarding claims 7 and 13 (*as best understood*), Bloom et al. taken with Battersby in view of Lippert **does not teach** said stereoscopic two-dimensional picture apparatus further comprising an image-formation-spot indicating a unit placed adjacent to said image formation plane in the stereoscopic frame.

Kato et al. **teaches** a two-dimensional range finding sensor (col. 2, lines 60-67; col. 3, lines 1-67; col. 4, lines 1-67; col. 5, lines 1-12 and Fig. 3). Kato et al. further **teaches** an apparatus for displaying a stereoscopic two dimensional picture comprising an image-formation-spot (col. 6, lines 44-58) indicating a unit placed adjacent to said image-formation plane in the stereoscopic frame (col. 6, lines 58-60 and Fig. 3).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bloom et al. taken with Battersby in view of Lippert the features as taught by Kato et al. in that both of these features are essential to the viewing of a stereoscopic two-dimensional image.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom et al. taken with Battersby in view of Lippert as applied to claim 1 in item 6 hereinabove, and further in view of Waldern (USP 6,407,724) taken with Matsumura et al.

Regarding claim 10, Bloom et al. taken with Battersby in view of Lippert **does not teach** said stereoscopic two-dimensional picture comprising: a back-light illuminating unit; a color liquid crystal display panel arranged so as to completely cover a surface of the back-light illuminating

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unit; and picture signal supply unit supplying a picture signal including two-dimensional picture data and stereoscopic image data to the color liquid crystal display panel.

Waldern et al. **teaches** a method and apparatus for viewing an image (col. 1, lines 48-67; col. 2, lines 1-67 and col. 3, lines 1-67). Waldern et al. further **teaches** stereoscopic two-dimensional picture comprising: a back-light illuminating unit; a color liquid crystal display panel arranged so as to completely cover a surface of the back-light illuminating unit (col. 24, lines 37-42).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bloom et al. taken with Battersby in view of Lippert the feature as taught by Waldern et al. in order to have the means to illuminate the entire color liquid crystal display panel.

Bloom et al. taken with Battersby in view Lippert taken with Waldern et al. **does not teach** said stereoscopic two-dimensional picture comprising a picture signal supply unit supplying a picture signal including two-dimensional picture data and stereoscopic image data to the color liquid crystal display panel.

Matsumura et al. **teaches** said stereoscopic two-dimensional picture comprising a picture signal supply unit supplying a picture signal including two-dimensional picture data and stereoscopic image data to the color liquid crystal display panel (col. 7, lines 24-49 and Fig. 1).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bloom et al. taken with Battersby in view of Lippert the features as taught by Waldern et al. taken with Matsumura et al. in that the features as taught by

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Waldern et al. and Matsumura et al. are necessary to generate the two-dimensional image to be displayed.

Allowable Subject Matter

10. Claims 2-3, 5, and 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claim 2, the prior art of record **does not teach** an apparatus for displaying a stereoscopic two-dimensional picture wherein a microlens array is a micro-convex-lens board formed of a plurality of lens systems each consisting of a part of convex lenses coaxially arranged, the lens systems being arranged in the two-dimensional manner so that the optical axes of the lens systems are parallel to one another.

Regarding claim 5, the prior art of record **does not teach** an apparatus for displaying a stereoscopic two-dimensional picture comprising a supporting member supporting a lens frame area and defining a distance between the image display screen and the image transmitting panel, at least an optical path side of the supporting member being a dark color.

Relative to claim 8, the prior art of record **does not teach** an apparatus for displaying a stereoscopic two dimensional picture wherein said stereoscopic frame is a glass tank filled with water.

Regarding claim 9, the prior art of record **does not teach** an apparatus for displaying a stereoscopic two dimensional picture comprising a second display unit placed on a bottom side

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of the glass tank with water and having a second flat image display screen for displaying a two-dimensional picture containing a second stereoscopic image

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,337,721	Hamagishi et al.
U. S. Patent No.	6,049,352	Allio
U. S. Patent No.	5,956,001	Sumida et al.
U. S. Patent No.	5,798,864	Sekiguchi
U. S. Patent No.	5,592,215	Kuga

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Responses

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Vincent E. Kovalick** whose telephone number is **(703) 306-3020**. The examiner can normally be reached Monday-Thursday from 9:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Bipin Shalwala**, can be reached at **(703) 305-4938**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

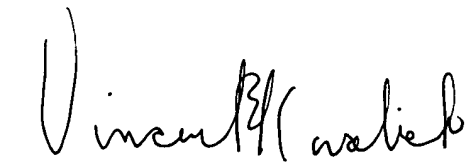
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Inquires

13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(703) 306-0377**.



Vincent E. Kovalick